METHODS FOR IMPROVING TASTE AND ORAL CARE COMPOSITIONS WITH IMPROVED TASTE

CROSS REFERENCE

This application claims the benefit of provisional application Ser. No. 61/173,711, filed on Apr. 29, 2009, and of provisional application Ser. No. 61/177,457 filed on May 12, 2009, each of which is incorporated by reference in its entirety herein.

FIELD OF THE INVENTION

The present invention is directed to oral care compositions with improved taste and methods of improving the taste of oral care compositions.

BACKGROUND OF THE INVENTION

People are always looking for ways to improve their smile and the health of their teeth and oral cavity. The first step on this journey for many is the use of oral care compositions like toothpaste and rinse. The benefits achieved from the use of those types of products cover a broad range from cosmetic benefits, like whitening and fresh breath, to health benefits, like reduced tartar. Unfortunately, many components used in oral care compositions, including the agents giving the desired benefits, often have a negative impact on the overall taste of the product. As such, there is a need for methods which provide improved flavor in oral care compositions and oral care compositions with improved flavor.

SUMMARY OF THE INVENTION

In one embodiment, the present invention is directed to a method for improving taste of an oral care composition. The method includes mixing a TRPV1 activator and a bad taste agent selected from the group consisting of: a metal salt, a peroxide, an antimicrobial agent, a bad breath reduction agent, a surfactant, and combinations thereof, to form an oral care composition.

In another embodiment, the present invention is directed to a method for improving taste of an oral care composition where the method includes mixing vanillyl butyl ether and a bad taste agent comprising a zinc salt, stannous salt, a potassium salt, copper salt, or a combination thereof, to form an oral care composition, wherein the vanillyl butyl ether is present in an amount of about 0.001% to about 0.025% by weight of the oral care composition.

In another embodiment, the present invention is directed to a method for improving taste of an oral care composition where the method includes mixing vanitrope and a bad taste agent comprising a metal salt, a peroxide, or a combination thereof, to form an oral care composition, wherein the vanitrope is present in an amount of about 0.01% to about 0.4% by weight of the oral care composition.

It is believed that these as well as other embodiments of the present invention will be better understood from the following description.

DETAILED DESCRIPTION OF THE INVENTION

Definitions

All percentages and ratios used hereinafter are by weight of total composition, unless otherwise indicated. All percentages, ratios, and levels of ingredients referred to herein are based on the actual amount of the ingredient, and do not include solvents, fillers, or other materials with which the ingredient may be combined as a commercially available product, unless otherwise indicated.

All measurements referred to herein are made at 25° C. (i.e. room temperature) unless otherwise specified.

As used herein, the word "about" means+/−10 percent.

As used herein, the word "include," and its variants, are intended to be non-limiting, such that recitation of items in a list is not to the exclusion of other like items that may also be useful in the materials, compositions, devices, and methods of this invention.

By "oral care composition" is meant a product, which in the ordinary course of usage, is not intentionally swallowed for purposes of systemic administration of particular therapeutic agents, but is rather retained in the oral cavity for a time sufficient to contact dental surfaces and/or oral tissues. The oral care composition may be in various forms including toothpaste, dentifrice, tooth gel, subgingival gel, mouth rinse, mousse, foam, mouth spray, lozenge, chewable tablet, chewing gum or denture care product. The oral care composition may also be incorporated onto strips or films for direct application or attachment to oral surfaces.

The term "dentifrice", as used herein, includes paste, gel, or liquid formulations unless otherwise specified. The dentifrice can be in a dual phase form, like a striped paste for example, and can also be used as a regimen.

The term "bad taste agent" as used herein, refers to a component in an oral care composition which gives an adverse taste to a user, for example, a metallic taste or an astringent taste, or an adverse sensation, for example, a feeling of dry mouth.

The term "teeth", as used herein, refers to natural teeth as well as artificial teeth or dental prosthesis.

The term "TRPV1" as used herein refers to the transient receptor potential vanilloid receptor 1 which is a ligand-gated, non-selective cation channel preferentially expressed on small-diameter sensory neurons and detects noxious as well as other substances.

The term "TRPV1 activator" as used herein refers to any component which at a concentration of 1 mM gives a calcium flux count of at least 1000 counts above the background level of calcium present in the cell according to the FLIPR method as discussed herein. The term "count" is defined as the change in fluorescence of the transfected cell lines due to the influx of calcium across the cell membrane, which reacts with the calcium sensitive dye present within the cells.

The term "TRPV1 enhancer" as used herein refers to any component that boosts the calcium flux activity of a compound that directly activates TRPV1, but does not directly activate TRPV1.

Active and other ingredients useful herein may be categorized or described herein by their cosmetic and/or therapeutic benefit or their postulated mode of action or function. However, it is to be understood that the active and other ingredients useful herein can, in some instances, provide more than one cosmetic and/or therapeutic benefit or function or operate via more than one mode of action. Therefore, classifications